



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,708	03/28/2001	Shawn P. McAllister	1400.4100285	4616
25697 7590 10/05/2007 ROSS D. SNYDER & ASSOCIATES, INC. PO BOX 164075 AUSTIN, TX 78716-4075			EXAMINER HAN, CLEMENCE S	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			10/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

09/821,708

Applicant(s)

MCALLISTER ET AL.

Examiner

Clemence Han

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12-26, 28-40 and 42-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-26, 28-40 and 42-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 45 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Due to the amendment made in the parent claim 42, the claim 45 now recites triggering both a hard reroute and a soft reroute. The specification discloses a hard reroute or a soft reroute, not both.

### *Claim Rejections - 35 USC § 102*

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claim 23-25, 30, 31, 33 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Srinivasan et al. (US 6,304,549).

Regarding to claim 23, Srinivasan teaches a data communication network, comprising: a source node (End Host A in Figure 1); a destination node (End Host B in Figure 1) operably coupled to the source node via a first connection that carries a data stream, wherein the source node injects diagnostic traffic into the data stream, wherein

Art Unit: 2616

the destination node monitors the diagnostic traffic (OAM in Column 16 Line 58-62) in the data stream; and a control block 50 operably coupled to the source node and the destination node, wherein when status of a selected characteristic associated with the diagnostic traffic is determined to be unacceptable, the control block performs a control plane reroute that establishes a second connection that couples the source node and the destination node (Column 17 Line 22-25), wherein the diagnostic traffic includes operation and management (OAM) performance monitoring traffic (Column 16 Line 58-66).

Regarding to claim 24, Srinivasan teaches the data stream includes a plurality of asynchronous transfer mode (ATM) cells (Column 5 Line 2-8).

Regarding to claim 25, Srinivasan teaches the diagnostic traffic includes operation and management (OAM) continuity checking traffic (Column 16 Line 58-66).

Regarding to claim 30, Srinivasan teaches the first and second connections are soft permanent virtual circuits (Column 2 Line 32).

Regarding to claim 31, Srinivasan teaches the first and second connections are switched connections (Figure 1).

Regarding to claim 33, Srinivasan teaches the control block establishes the second connection as a part of a soft reroute (Column 17 Line 22-25).

Regarding to claim 35, Srinivasan teaches the selected characteristic includes at least one of: data corruption on the first connection, data loss on the first connection,

latency along the first connection, and misinsertion of data on the first connection  
(Column 2 Line 57-61).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1-9, 12-15, 17-22, 26, 28, 29 and 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan et al. in view of Cedrone et al. (US 6,538,987).

Regarding to claim 1, Srinivasan teaches a method for rerouting a connection in a data communication network, comprising: establishing the connection in the data communication network, wherein the connection is managed by a control plane 105, 200 (Column 7 Line 32-41); monitoring status of a selected characteristic of the connection using a user connection monitoring function 315; and when the status of the selected characteristic is determined to be unacceptable, initiating control plane rerouting of the connection (Column 17 Line 22-25), wherein the user connection monitoring function includes OAM continuity checking (Column 16 Line 58-66). Srinivasan, however, does not teach explicitly detecting a loss of continuity for a predetermined time period. Cedrone teaches detecting a loss of continuity for a predetermined time period (Column 8 Line 39-47). It would have been obvious to one skilled in the art to modify Srinivasan to

detect a loss of continuity for a predetermined time period as taught by Cedrone in order to determine if it should initiate rerouting or not (Column 8 Line 44).

Regarding to claim 2, Srinivasan teaches the selected characteristic includes continuity on the connection (Column 17 Line 1-4).

Regarding to claim 3, Srinivasan teaches the selected characteristic includes at least one of: data corruption on the connection, data loss on the connection, latency along the connection, and misinsertion of data on the connection (Column 2 Line 57-61).

Regarding to claim 4, Srinivasan teaches the data communication network supports asynchronous transfer mode (ATM) protocol (Column 5 Line 2-8).

Regarding to claim 5, Srinivasan teaches the control plane is a signaling plane (Column 5 Line 43 – Column 6 Line 12, see Figure 3).

Regarding to claim 6, Srinivasan teaches the signaling plane uses private network-to-network interface (PNNI) 56.

Regarding to claim 7, Srinivasan teaches the connection is a soft permanent virtual connection (SPVC) (Column 2 Line 32).

Regarding to claim 8, Srinivasan teaches the connection is a switched connection (Figure 1).

Regarding to claim 9, Srinivasan teaches the user connection monitoring function utilizes operation and management (OAM) traffic (Column 16 Line 58-62).

Regarding to claim 12, Srinivasan teaches the user connection monitoring function includes OAM performance monitoring (Column 16 Line 58-66).

Regarding to claim 13, Cedrone teaches determining that the status of the selected characteristic is unacceptable further comprises determining that a property of the selected characteristic exceeds a predetermined threshold (Column 8 Line 39-47).

Regarding to claim 14, Cedrone teaches the selected characteristic further comprises a plurality of selected characteristics, wherein each selected characteristic of the plurality of selected characteristics has a corresponding predetermined threshold, wherein determining that the status of the selected characteristic is unacceptable includes determining that a property corresponding to at least one selected characteristic of the plurality of selected characteristics exceeds the corresponding predetermined threshold for the at least one selected characteristics (Column 8 Line 39-47).

Regarding to claim 15, Cedrone teaches at least a portion of the corresponding predetermined thresholds for the plurality of selected characteristics is configurable (Column 8 Line 39-47).

Regarding to claim 17, Srinivasan teaches initiating control plane rerouting of the connection further comprises initiating a soft reroute (Column 17 Line 22-25).

Regarding to claim 18-20, Srinivasan in view of Cedrone does not teach the specific protocols. It would have been obvious to one skilled in the art to modify Srinivasan in view of Cedrone to be used with MPLS, LDP or RSVP and LSP in order to adapted to specific network.

Regarding to claim 21, Srinivasan teaches the user connection monitoring function monitors continuity along the connection (Column 16 Line 58-66).

Regarding to claim 22, Srinivasan teaches the user connection monitoring function monitors at least one of: data corruption on the connection, data loss on the connection, latency along the connection, and misinsertion of data on the connection (Column 16 Line 58-66).

Regarding to claim 26, Srinivasan teaches a data communication network, comprising: a source node (End Host A in Figure 1); a destination node (End Host B in Figure 1) operably coupled to the source node via a first connection that carries a data stream, wherein the source node injects diagnostic traffic into the data stream, wherein the destination node monitors the diagnostic traffic (OAM in Column 16 Line 58-62) in the data stream; and a control block 50 operably coupled to the source node and the destination node, wherein when status of a selected characteristic associated with the diagnostic traffic is determined to be unacceptable, the control block performs a control plane reroute that establishes a second connection that couples the source node and the destination node (Column 17 Line 22-25), wherein the diagnostic traffic includes operation and management (OAM) performance monitoring traffic (Column 16 Line 58-66). Srinivasan, however, does not teach explicitly detecting a loss of continuity for a time period that exceeds a predetermined threshold. Cedrone teaches detecting a loss of continuity for a predetermined time period (Column 8 Line 39-47). It would have been obvious to one skilled in the art to modify Srinivasan to detect a loss of continuity for a time period that exceeds a predetermined threshold as taught by Cedrone in order to determine if it should initiate rerouting or not (Column 8 Line 44).



Regarding to claim 28, Cedrone teaches the status of the selected characteristic is determined to be unacceptable when a property associated with OAM performance monitoring exceeds a predetermined threshold (Column 8 Line 39-47).

Regarding to claim 29, Cedrone teaches the predetermined threshold is configurable (Column 8 Line 39-47).

Regarding to claim 36, Srinivasan teaches a method for rerouting a connection in a data communication network, comprising: establishing the connection in the data communication network (Column 2 Line 32), wherein the connection is managed by a control plane 105, 200 (Column 7 Line 32-41); using operation and management (OAM) cells to monitor at least one characteristic of the connection (Column 16 Line 58-62); and when status of the at least one characteristic is determined to be unacceptable, initiating control plane rerouting of the connection (Column 17 Line 22-25), wherein the OAM traffic comprises OAM continuity checking traffic, wherein the at least one characteristic includes continuity (Column 16 Line 58-66). Srinivasan, however, does not teach explicitly detecting a lack of continuity for a time period that exceeds a configurable threshold. Cedrone teaches detecting a lack of continuity for a time period that exceeds a configurable threshold (Column 8 Line 39-47). It would have been obvious to one skilled in the art to modify Srinivasan to detect a lack of continuity for a time period that exceeds a configurable threshold as taught by Cedrone in order to determine if it should initiate rerouting or not (Column 8 Line 44).

Regarding to claim 37, Srinivasan teaches the connection is a soft permanent virtual connection (SPVC) (Column 2 Line 32).

Regarding to claim 38, Srinivasan teaches the connection is switched virtual connection (SVC) (Column 7 Line 61-65).

Regarding to claim 39, Srinivasan teaches the control plane is a signaling plane (Column 5 Line 43 – Column 6 Line 12, see Figure 3).

Regarding to claim 40, Srinivasan teaches the signaling plane uses private network-to-network interface (PNNI) 56.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan et al. in view of Cedrone et al. as applied to claim 1 above, and further in view of So (US 6,735,176).

Regarding to claim 16, Srinivasan in view of Cedrone does not teach initiating a hard reroute. So teaches initiating a hard reroute (Column 2 Line 22-28). It would have been obvious to one skilled in the art to modify Srinivasan in view of Cedrone to initiate a hard reroute as taught by So in order to be used for connection recovery or priority control features (Column 2 Line 25-26).

8. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan et al..

Regarding to claim 34, Srinivasan teaches a data communication network, comprising: a source node (End Host A in Figure 1); a destination node (End Host B in Figure 1) operably coupled to the source node via a first connection that carries a data

Art Unit: 2616

stream, wherein the source node injects diagnostic traffic into the data stream, wherein the destination node monitors the diagnostic traffic (OAM in Column 16 Line 58-62) in the data stream; and a control block 50 operably coupled to the source node and the destination node, wherein when status of a selected characteristic associated with the diagnostic traffic is determined to be unacceptable, the control block performs a control plane reroute that establishes a second connection that couples the source node and the destination node (Column 17 Line 22-25), wherein the diagnostic traffic includes operation and management (OAM) performance monitoring traffic (Column 16 Line 58-66). Srinivasan, however, does not teach the specific protocols. It would have been obvious to one skilled in the art to modify Srinivasan in view of Cedrone to be used with MPLS and LSP in order to adapted to specific network.

9. Claim 32 and 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan et al. in view of So.

Regarding to claim 32, Srinivasan teaches a data communication network, comprising: a source node (End Host A in Figure 1); a destination node (End Host B in Figure 1) operably coupled to the source node via a first connection that carries a data stream, wherein the source node injects diagnostic traffic into the data stream, wherein the destination node monitors the diagnostic traffic (OAM in Column 16 Line 58-62) in the data stream; and a control block 50 operably coupled to the source node and the destination node, wherein when status of a selected characteristic associated with the diagnostic traffic is determined to be unacceptable, the control block performs a control

plane reroute that establishes a second connection that couples the source node and the destination node (Column 17 Line 22-25), wherein the diagnostic traffic includes operation and management (OAM) performance monitoring traffic (Column 16 Line 58-66). Srinivasan, however, does not teach the control block establishing the second connection as a part of a hard reroute. So teaches initiating the control block establishing the second connection as a part of a hard reroute (Column 2 Line 22-28). It would have been obvious to one skilled in the art to modify Srinivasan to establish the second connection as a part of a hard reroute as taught by So in order to be used for connection recovery or priority control features (Column 2 Line 25-26).

Regarding to claim 42, Srinivasan teaches a method for rerouting a connection in a data communication network, comprising: detecting a fault in the connection in the user plane 315; and triggering a reroute of the connection in the control plane based on the fault detected (Column 17 Line 22-25). Srinivasan, however, does not teach triggering a hard reroute. So teaches triggering a hard reroute (Column 2 Line 22-28). It would have been obvious to one skilled in the art to modify Srinivasan to trigger a hard reroute as taught by So in order to be used for connection recovery or priority control features (Column 2 Line 25-26).

Regarding to claim 43, Srinivasan teaches detecting a fault further comprises detecting a fault using operation and management (OAM) services running within the user plane (Column 16 Line 58-62).

Regarding to claim 44, Srinivasan teaches the connection is a soft permanent virtual connection (SPVC) (Column 2 Line 32).

Regarding to claim 45, Srinivasan teaches triggering a reroute further comprises triggering a soft reroute (Column 17 Line 22-25).

### ***Response to Arguments***

10. Applicant's arguments with respect to claim 1-9, 12-26, 28-40 and 42-45 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (571) 272-3158. The examiner can normally be reached on Monday-Friday 9 - 5.

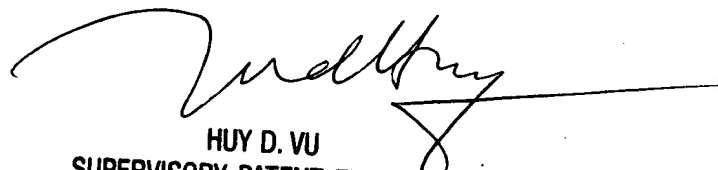
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C. H.

Clemence Han  
Examiner  
Art Unit 2616

  
HUY D. VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600